

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all previous versions and listings of claims in this application.

Claim Listing:

Claims 1-15: (Cancelled).

16. (Currently amended) A database system which searches a plurality of tables joined by a relational database, comprising:

table extraction means for extracting one table including columns that store data to be retrieved from a plurality of tables;

column exclusion means for excluding columns that store data to be retrieved of the table extracted by said table extraction means and columns on other tables which store the same data contents as data contents of the columns on the extracted table from columns to be extracted in subsequent processing; and

table joining means for creating a virtual table by joining the columns that store data to be retrieved of the tables extracted in turn by said table extraction means without being excluded by said column exclusion means, when the processing of said table extraction means and the processing of said column exclusion means have been repeated until all the columns including data to be retrieved are analyzed.

17. (Original) A system according to claim 16, wherein said table extraction means extracts one table including a largest number of columns which store data to be retrieved from the plurality of tables.

18. (Original) A system according to claim 16, further comprising metadata management means for collecting and managing metadata which pertain to joining of the

plurality of tables, and wherein said table extraction means extracts the table on the basis of the metadata stored in said metadata management means.

19. (Currently amended) A system according to claim 16, further comprising retrieval means for retrieving objects in accordance with a retrieval key, and wherein data is retrieved from the virtual table created by joining the tables which are extracted in turn and joined by said table extraction means.

20. (Currently amended) A method of data retrieval from a database, comprising:

repeating processing ~~for extracting that extracts~~ a table and ~~processing for excluding~~
~~excludes columns that include including~~ identical data ~~from a previous upon search; by~~

creating a virtual table by joining columns that store data to be retrieved of a plurality of
tables ~~by using~~ a relational database in such a manner that one table including columns that store
data to be retrieved is extracted from the plurality of tables, columns which store the same data
contents as data contents of columns on the extracted table of other tables are excluded, and
another table is extracted from the remaining tables, ~~and; and~~

joining one or more tables extracted in turn.

21. (Original) A method according to claim 20, wherein upon extracting one table from the plurality of tables, one table including a largest number of columns that store data to be retrieved is extracted.

22. (Previously presented) A method according to claim 20, wherein data is retrieved from the one or more joined virtual table created by joining the plurality of tables.

23. (Currently amended) A computer-readable recording medium recording a program for making a computer implement the functions of:

extracting one table including a largest number of columns that store data to be retrieved

from a plurality of tables upon search by joining a plurality of tables by a relational database;

excluding columns of the extracted table and columns on other tables which store the same data contents as data contents of the columns on the extracted table from columns to be extracted in subsequent processing; and

creating a virtual table by joining the tables extracted in turn without being excluded by said excluding columns when the processing of said two means have been repeated until all the columns including data to be retrieved are analyzed.

24. (Currently amended) A medium according to claim 23, wherein said program makes the computer further implement the function of retrieving objects in accordance with a retrieval key from the virtual table created from the tables extracted and joined by said table extraction means.

25. (New) A database system, comprising:

means for extracting columnar data from plural distributed databases;

means for creating a virtual table by analyzing and joining specified columnar data from the plural distributed databases; and

means for excluding any duplicative columnar data in the plural distributed databases from the virtual table.

26. The database system of claim 25, wherein the means for extracting functions until all columnar data in the plural distributed databases has been analyzed.

27. (New) A method of searching a plurality of tables joined by a relational database, the method comprising:

extracting a first table including columns that store data to be retrieved from the plurality

of tables;

extracting a second table including columns that also store data to be retrieved from the plurality of tables;

extracting a third table including columns that also store data to be retrieved from the plurality of tables;

creating a virtual table by joining columns of the first, second, and third extracted tables;

excluding, from the created virtual table, columns of the second extracted table which duplicates data contents of the first extracted table;

excluding, from the created virtual table, columns of the third extracted table which duplicates data contents of either the first or the second extracted table; and

searching the virtual table for desired data.